



Civil Air Patrol
US Air Force Auxiliary

**Florida Wing
Headquarters**

Aerospace Education Briefing

Subject: CAP AE Core Curriculum
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Directed To: All AE Members

Date: 13 Oct 04
AEB No.: 04-0001

FL WG Internal AE Briefing: Core Curriculum

First of all, I want to commend our hard-working FL WG unit Aerospace Education Officers (AEOs). I know – because your units' members have told me - that you are making your unit AE classes interesting; this includes hands-on projects to help your students understand the concepts taught. You are the reason why FL WG has won the National AE Mission Award three years consecutively (2001, 2002, and 2003). Lt Col John Lynn, FL WG Director of AE (DAE), compiles and sends in the annual Wing AE Report to SER, but 95% of the information in it is based on your annual Squadron AE Activities Report (due mid-January to wing DAEs). One main reason why FL WG wins this National award is that we're broad-based in our AE activities; we cover all the elements of the AE Mission, internal as well as external, not majoring on a couple of areas to the exclusion of others. Congratulations on a job well done!!!

I've been thinking a lot lately about our CAP AE purposes and goals; these are found in [CAPR 280-2 "CAP AE Mission"](#). The main thing I would like to do in this briefing is help us to better understand and focus on the purpose of the internal (within CAP) AE program and the goals that support that purpose which the internal AE activities – teaching, mentoring, field trips, bivouacs, etc., - in our units need to be based. The purpose of our internal AE program is stated in CAPR 280-2, 2., a. Internal Aerospace Education: **[“The internal AE program provides basic aerospace knowledge to both cadet and senior members.”](#)** The internal AE goals outlined further in CAPR 280-2, 2., a. support this purpose. Sometimes it's easy to focus on our AE activities like the ones mentioned above as an end in themselves and lose sight of our internal purpose and the goals to accomplish that purpose. For instance, during our AE classes, do we spend a lot of time telling about our military involvement and talking in technical terms about our aerospace career

experiences? Now, before some of you wonderful folks get offended by that statement, notice that I said “a lot of time”. I believe there is a place and time for this kind of teaching. However, almost all our AE time should be spent on other activities that more directly support our internal AE program.

Remember that the internal purpose is focused on “basic aerospace knowledge”. This is a general – neither very specific nor technical – AE education. As CAPR 280-2 states, the internal cadet AE program, as stated in CAPR 280-2, 2., a., 1), is outlined in [CAPR 52-16 “CAP Cadet Program Management”](#) and the internal senior AE program, the “Aerospace Education Program for Senior Members”, is described in CAPR 280-2, 2., a., 2). You can ascertain whether or not your unit’s members are progressing in our internal AE purpose by whether or not they are fulfilling the AE goals stated in these two publications. The core curriculum for this “basic aerospace knowledge” is Aerospace Dimensions (AD) for Phase I and II cadets and Aerospace: The Journey of Flight (AJ) for seniors and Phase III and IV cadets. I will focus on this core curriculum and not discuss the additional components that contribute to a “basic aerospace knowledge” like AE current events, books and magazine articles, bulletin board postings of AE events, field trips, bivouacs, etc.

You can determine if your unit is fulfilling the “basic aerospace knowledge” purpose in an effective way regarding the core curriculum by answering these questions: “What is the first-time pass rate for cadets taking the AD tests?” and “What is the first-time pass rate for seniors and cadets taking the AJ tests?” If the answer to the first is 80% and to the second is 100%, then you are successfully accomplishing our internal AE purpose as pertaining to the core curriculum. I say 80% for the first question because sometimes cadets are distracted by internal (lack of preparation, sickness, emotional factors, etc.) or external (noise, temperature, etc. – these are usually under our control, however) conditions. However, that 20% who need to retake the test should pass it the next time. I say 100% for the second question because members can take the AJ tests open-book. Some units have told me that they don’t allow their members to take these tests until they thoroughly know and understand the material. In the two sections that follow I will suggest some ways to help our members better know and understand the basic aerospace knowledge contained in our AE core curriculum including involving the cadets in instructing and mentoring.

Aerospace Dimensions (AD)

When I was AEO of the North Tampa Cadet Squadron (SER-FL-243) from Apr 99-Aug 02, I taught the AE classes Apr-Dec 99. For the remainder of my time as AEO, I never taught any of the monthly cadet AE classes on the Phase 1 and 2 materials; my C/AEOs taught all these classes. Teaching AD was one of the C/AEO duties at North Tampa Cadet Squadron. Now, we didn’t have them teach the AE classes without adequate learning-to-teach experience beforehand. The

C/AEO had AE teaching experience the year before by assisting that year's C/AEO in teaching and by helping make AE presentations in schools, community centers, etc. (The AEOs who teach the AE classes should at least have cadets teach portions of them; instructing in AE is one of the requirements for our Phase IV cadets.) Then, when he or she was C/AEO, I worked with him or her on preparation for each AE class. The C/AEO duty was so popular that we had three cadets who applied for the squadron C/AEO duty for 2002. Two were chosen and they team-taught the AE classes. None of the C/AEOs were cadet officers when they started their duty as C/AEO. The two 2002 C/AEOs were C/SSgt and C/TSgt when they started their C/AEO duties. All it takes is a willingness and ability to do the job.

One AD module was taught during each quarter so that all six modules were covered in an 18-month period; there are an average of three chapters per module so generally one chapter was covered each month. I would submit that covering AD in a year's time is probably going too quickly through the material. Spending 18 months would also follow the minimum time required (18 months) to complete the Cadet Program through the Mitchell Award. New cadets could learn and test on the current module taught; many chose to do that. And, this was good Mitchell Award review for cadets who had already taken the current module test. On an occasional basis, we would invite a guest speaker with an expertise in the current topic to teach that class (i.e., navigation). Also, why not involve your seniors who don't already have a basic AE knowledge in these AD classes?

The AEX Award program was implemented into this teaching schedule during Jan-Jun of each year. (The completion time for the AEX Award Program is now Oct-Sept.) Many of the AD and AEX Award projects are the same so we would use those or other AEX projects that supported whatever module was being taught at the time. Usually, the C/AEOs would "wrap up" a module chapter by asking the chapter study questions or using the module's AD Student Study Guide questions for a fun AE competition between the flights. The NTCS is a very well-rounded squadron, hence, there was time for only one AE class a month – 45 minutes. We didn't have time for the more lengthy AD and AEX Award projects like the Goddard rocket. If you have two class periods for AE, you would have time to include these longer projects. Involve your seniors in these AEX Award projects; I know squadrons that do so and everyone has a great time! I know senior squadrons that complete the AEX Award Program (a senior squadron AEX Award project book is being developed at this time).

I've covered the teaching of the cadet Phase 1 and 2 AE core curriculum. No matter how effective your teaching is, however, mentoring of individual cadets is crucial for efficient learning. Mentoring ensures that each individual cadet knows and understands the material and is prepared to pass a particular test. C/CMSgts and higher are required to mentor Phase I and II cadets in their AE materials, and, along with Senior Member mentoring of cadets if you don't have

enough cadet mentors, will help ensure that our Phase I and II cadets are prepared for their AE tests. Mentoring is not a study time; the mentoree should have already adequately studied the material. Mentoring is a time when the mentor reviews the material with the mentoree to ensure that he or she understands it which includes helping them in the concepts they don't understand. [CAPP 52-6 "Mentoring"](#), page 4, section 3, covers AE cadet mentoring.

At North Tampa Cadet Squadron during the beginning of 2002, the C/AEOs were charged with implementing an AE mentoring plan that worked. They tried meeting with cadets outside of squadron meeting times, i.e., at the public library, homes, etc. That was not successful for various reasons. The C/AEOs determined that the mentoring had to be part of the regular squadron meetings so as to have the most mentors and mentorees available and to eliminate travel time; they chose to have it right before the mentorees took their AE tests so that the mentoring was most effective. AE mentoring was offered for a period of 20 minutes immediately before each month's testing session. Most cadets took advantage of this; some didn't feel the need for mentoring which was fine. A mentor would take one or two cadets (if they were testing on the same module), usually the same cadets each time, and quickly review the module, noticing any problems understanding concepts as well as directly asking if there were any problems understanding any areas. The mentor would then explain those concepts ensuring that the mentoree(s) understood them. This teaching and mentoring resulted in an 80% first time pass rate of the AD module tests. Remember that you can give the written tests orally to cadets who may have visual or comprehension problems making sure the cadets understand the questions without explaining concepts or giving definitions they should know.

Aerospace: The Journey of Flight (AJ)

I encourage squadron AEOs to have an AJ class in which both seniors and Phase III and IV cadets participate. The AJ material can be taught over an 18 month period during a monthly class using the end-of-chapter "Test Your Knowledge" section for review as a fun competition and to ensure that the participants have learned the material. Part One, history, can be taught the first quarter, Part Two, the second quarter, etc. Even if cadets have already taken the current class's test (though cadets only test on 18 AJ chapters), this is good review for their award tests. As stated before, cadets and seniors can take their AJ tests open-book. The AD and AJ classes might need to be conducted at different times in order to free your Phase IV cadets to instruct in AD. There should be no problem with cadets and seniors passing their AJ tests first-time since they are open-book. However, keep in mind that some cadets may need the test questions given to them orally. Most seniors will elect to take their AJ test (covers all 27 AJ chapters) on-line ([see link under "Aerospace Exams"](#))

rather than by hard-copy at squadron headquarters. However, I know some seniors with vision problems who needed the test given to them orally from the hard-copy. Remember that there are two Yeager Award tests; seniors, only take one!

Canandaigua Composite Squadron has developed practice quizzes for AD and AJ ([see link under "Aerospace Exams"](#)). Our FL WG Cadet Programs web-site also contains practice quizzes for AD ([see link under "Aerospace Exams"](#)). Members can take these at their leisure. You can use these quiz questions for review competitions, too.

I hope that this information is helpful. If you have successes in your internal AE program for cadets and seniors as well as your external AE program, please share these with all of us; one of the main purposes of the FL WG AE e-group is to help one another to be more successful in implementing our CAP AE Mission.

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